

### **REMARKS**

The present Amendment amends claims 1, 2, 4, 5 and 8-10 and leaves claims 3, 6, 7 and 11-13. Therefore, the present application has pending claims 1-13.

Claims 1-13 stand rejected under 35 USC §103(a) as being unpatentable over Ramasubramani (U.S. Patent No. 6,509,589) in view of Ryu (U.S. Patent No. 6,775,291). This rejection is traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1-13 are not taught or suggested by Ramasubramani or Ryu whether taken individually or in combination with any of the other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims so as to clarify that the present invention is directed to an information providing method on a communication network including a server for providing a service, a gateway apparatus and mobile packet communication network accommodating a mobile terminal and including a service management node for managing management information of the service to be provided to the mobile terminal in the mobile packet communication network such that the gateway apparatus is capable of communicating with the mobile terminal, the server and the service management node. The present invention is also directed to the features of the gateway apparatus.

According to the present invention the method includes making a request to set management information from the service management node to the gateway apparatus, in an execution process of a procedure for

accommodating the mobile terminal to the mobile packet communication network, registering management information including a service identifier to the server to be provided to the mobile terminal into a management table by the gateway apparatus in response to reception of the request, checking whether a service request has been sent from the mobile terminal to the server with respect to the service corresponding to the service identifier by the gateway apparatus, and generating the service request and sending the service request to the server, if the service request has not been sent from the mobile terminal by the gateway apparatus to the server to start the service.

Thus, by use of the features of the present invention as recited in the claims even if a mobile terminal has not issued a service request to a server for providing a service, a gateway apparatus can automatically generate the service request on behalf of the mobile terminal during a procedure such as location registration for accommodating the mobile terminal to a mobile communication network, and automatically send the request to the server on behalf of the mobile terminal. Thus, according to the present invention it becomes possible to provide push-type information service to a mobile terminal without requiring a functional change to the mobile terminal to incorporate therein push-type functionality. These features of the present invention are described, for example, on page 41, line 17 to page 42, line 10 of the present application.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention as

now more clearly recited in the claims are not taught or suggested by Ramasubramani or Ryu whether said references are taken individually or in combination with each other as suggested by the Examiner.

Ramasubramani proposes a multi-network gateway connectable to a plurality of different type of wireless carrier networks and to the internet. As described with reference to FIG.3 of Ramasubramani, the multi-network gateway includes a push agent (module) 302 and a pull agent (module) 304 between an HTTP module 306 for communicating with the Internet and a wireless carrier interface 308 coupled to various types of wireless carrier networks each accommodating wireless communication devices (mobile terminals). In order to support the various carrier networks, each of the push agent 302 and the pull agent 304 includes airlinks for each of the carrier networks. These airlinks are specialized programming resources that are designed to correspond and interact with the particular wireless network characteristics associated with the corresponding carrier network.

As stated in Col.7, lines 6-10 of Ramasubramani, the push agent 302 operates to "push" information content from the Internet to the wireless communication devices and the pull agent 304 operates to "pull" information content from the Internet when requested by the wireless terminals. Ramasubramani describes, in the last paragraph of col. 13 by referring to FIG. 9, that a request (for information from the Internet) sent from a wireless device 922 can be forwarded to the carrier network in a wireless manner, the request can then be forwarded to a protocol adapter 912 of a NB-router 906 via SMSC 918, and the protocol adapter 912 then forwards the request to a port of the pull agent 904 where an airlink 930 is waiting to receive such requests. The

appropriate port associated with the airlink 930 is identified by using a route table 916.

Although the Examiner states in the Office Action referring to FIG. 2 of Ramasubramani, that a carrier network CN 208 corresponds to a service management node of the invention, Applicants fail to find any teaching whatsoever in Ramasubramani that CN 208 performs functions corresponding to the functions performed by the service management node as in the present invention as alleged by the Examiner. Ramasubramani apparently fails to detail the operations performed between the multi-network gateway and the alleged service management node (CN 208) as would be necessary for Ramasubramani to correspond to the features of the present invention as recited in the claims.

Further, Ramasubramani describes the flow diagram of push agent with reference to FIG. 11, but fails to describe how to request a push server to start information distribution to a user having a target address (subscriber identifier) as would be necessary for Ramasubramani to correspond to the features of the present invention as recited in the claims.

As noted above, Ramasubramani discloses in Fig. 3 thereof, a multi-network gateway which includes a push agent and a pull agent that serve to provide wireless communication devices (mobile devices) with access to information from the Internet (see the first paragraph of col. 7). Ramasubramani also discloses to route a message (request) from a mobile device to one of a plurality of addressable portions within the gateway in accordance with a destination port identifier in a header of the received message (see col. 3). However, there is no teaching or suggestion in

Ramasubramani that the service request is checked as to whether it has been sent from the mobile terminal to the server with respect to the service corresponding to the service identifier and that if the service request has not been sent from the mobile terminal the service request is generated and sent by the gateway apparatus to the server to start the desired service as in the present invention as recited in the claims.

As such, Ramasubramani fails to teach the features of the present invention as recited in the claims and the idea of automatic issuing a service request for service from the Internet, in place of a wireless communication device, by a gateway for connecting a mobile packet communication network (wireless carrier network) and the Internet, when the wireless communication device is connected to the mobile packet communication network.

Thus, Ramasubramani fails to teach or suggest making a request to set management information from the service management node to the gateway apparatus, in an execution process of a procedure for accommodating the mobile terminal the mobile packet communication network as recited in the claims.

Further, Ramasubramani fails to teach or suggest registering management information including a service identifier of the service to be provided to the mobile terminal into a management table by the gateway apparatus in response to reception of the request as recited in the claims.

Still further, Ramasubramani fails to teach or suggest checking whether a service request has been sent from the mobile terminal to the server with respect to the service corresponding to the service identifier by the gateway apparatus as recited in the claims.

Even further still, Ramasubramani fails to teach or suggest generating the service request and sending the service request to the server, if the service request has not been sent from the mobile terminal by the gateway apparatus to the server to start the service as recited in the claims.

The above described deficiencies of Ramasubramani are not supplied by any of the other references of record. Particularly, the above described deficiencies of Ramasubramani are not supplied by Ryu. Therefore, combining the teachings of Ramasubramani with Ryu in the manner suggested by the Examiner in the Office Action still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Ryu is directed to a method of providing wireless internet service in a gateway system that stores and manages the latest URL web contents in a URL memory using a time to live (TTL) expired time and last modification time of the URL web contents to provide quick internet service for the latest web contents when a mobile terminal supporting no WAP standard request information.

In the Office Action the Examiner recognizes that Ryu does not "explicitly indicate that the method includes a service management node 'SMN' for managing visit location information of the mobile terminal in the mobile packet communication network". The Examiner alleges that Ryu teaches an SMN within the CN that allows for the management of mobile devices within its network and facilitates communication thereof. The Examiner refers to Fig. 4, col. 5, lines 15-65 of Ryu.

Fig. 4 of Ryu and the corresponding description teaches a gateway system that provides internet services. Ryu teaches that the gateway system

40 compiles the WML contents and encodes/decodes the WML contents into short messages and vice versa. Particularly, Ryu teaches that the gateway system processes requests from subscribers and web contents collected according to the requests and that the content manager 42 performs a subscriber request classifying function, content initializing function and cache function for managing a variety of URL web contents.

However, at no point is there any teaching or suggestion in Ryu of the above described features of the present invention as now more clearly recited in the claims. Particularly, Ryu teaches, for example, that the push service device 44 actively checks bookmarked URL information included in a service item defined by a subscriber and when there is an update of URL information informs the subscriber of the updated URL information. Further, Ryu teaches that the internet managing device 45 accesses the internet to collect URL web contents requested by a subscriber and transmits them to the content manager.

Thus, as can be seen from above, at no point is there any teaching or suggestion Ryu that a specific process is performed so as to determine whether a service request has been sent from the mobile terminal to the server with respect to the service corresponding to the service identifier and that if such a request has not been sent then the gateway apparatus generates a service request and sends the service request to the server to start the desired service as in the present invention as recited in the claims. Ryu simply teaches the above described book marked service which simply checks book mark URL information and sends such URL information if an update to the URL has been made. This book marking processing as taught

by Ryu is not in any way triggered by a determination that the mobile terminal has not sent a request for the desired service thereby requiring the gateway apparatus to send the request on its behalf as in the present invention as recited in the claims.

Therefore, both Ramasubramani and Ryu fail to teach or suggest the features of the present invention as now more clearly recited in the claims, and as such combining Ramasubramani and Ryu in the manner suggested by the Examiner in the Office Action does not render obvious the claimed invention. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 1-3 as being unpatentable over Ramasubramani in view of Ryu is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the reference utilized in the rejection of claims 1-13.

In view of the foregoing amendments and remarks, applicants submit that claims 1-13 are in condition for allowance. Accordingly, early allowance of claims 1-13 is respectfully requested.



To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (520.39903X00).

Respectfully submitted,

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